

5  
614  
H2BDPH  
V.9 #9-10

Helena Public Li



# STATE OF MONTANA BULLETIN

OF THE

## Department of Public Health

Entered as second-class matter July 10, 1914, at the Post Office at Helena, Montana, under the Act of August 24, 1912.

Vol. 9.

Jan.-Feb. 1916

Nos. 9 and 10

### MONTANA STATE BOARD OF HEALTH.

D. J. DONOHUE, M. D., President.

W. J. BUTLER, D. V. S., Vice President.

HON. S. V. STEWART, Governor.

HON. J. B. POINDEXTER, Attorney General.

E. F. MAGINN, M. D.

S. A. COONEY, M. D.

W. F. COGSWELL, M. D., Secretary.

EMIL STARZ, Ph. D.  
State Bacteriologist,

W. M. COBLEIGH,  
Chemist.

F. C. SNOW, C. E.,  
Consulting Sanitary Engineer.

F. J. O'DONNELL,  
Special Inspector.

HELENA, MONTANA.

Published Monthly at Helena, by the State Board of Health.

"The science of disease prevention, if properly applied, can add fifteen years to the present average length of human life."—Prof. Irving Fisher, Yale.

This Bulletin will be mailed monthly to any person in Montana upon request mailed to the Secretary of the State Board of Health at Helena.

INDEPENDENT PUBLISHING CO.  
HELENA, MONTANA





Digitized by the Internet Archive  
in 2015

## ROCKY MOUNTAIN SPOTTED (TICK) FEVER.

The Doctors in all parts of the State are requested to be on the look out for cases of spotted (tick) fever.

For many years this disease in Montana has been confined to the Bitter Root Valley, with a few cases occurring in the Clark's Fork Valley. Last year for the first time cases were reported from Gallatin, Big Horn, Custer, Dawson and Fallon Counties. The cases occurring in these latter Counties were much less severe than those occurring in the Bitter Root Valley, but in spite of this we had two deaths.

Cases of spotted fever occur during the seasonal activity of the wood tick, from about the middle of March until the middle of July. If any of the physicians throughout the State have cases where they are in doubt as to diagnosis, they should wire the State Health Department. The services of an expert can thus be secured.

This disease has been more or less confused with measles, scarlet fever, cerebrospinal meningitis or spotted fever, typhus, also called spotted fever, occasionally with smallpox and frequently with typhoid and paratyphoid fevers under the common name of "mountain fever." It is now known, however, that Rocky Mountain spotted fever is a distinct disease of the Rocky Mountain Region, transmitted to man by the bite of an infected wood tick.

This disease occurs only in persons who have been exposed to tick bites, generally during the spring and early summer months. It has an incubation period of from three to eleven days and may be ushered in by a chill followed by headache and deep seated pains in the extremities, particularly in the lower limbs.

An eruption is always present after the first days of the disease. There may be a general macular roseolar eruption in the beginning; but the characteristic eruption of Rocky Mountain spotted fever is petechial and appears first on the ankles, wrists and forehead.

The petechia may be limited to a few indistinct spots or may spread over the entire body and in severe cases become purpuric, frequently leaving a mottled pigmentation lasting for months or years.

The temperature is continuous and lasts from one to two weeks.

It is highly important that the extent of the infection within the State be determined. in order to guard against its spread and it is therefore requested that you investigate and report all suspicious cases in your district.

When it is desired and early reports of cases have been received, an effort to confirm the diagnosis will be made.

---

### ATTENTION! HEALTH OFFICERS.

Before another month rolls around if the weatherman is kindly disposed, we will be in the midst of our spring cleanup, so let's go at it intelligently and with a firmness born of the knowledge of the authority vested in us by our Public Health Laws and Regulations. Don't be afraid to tell the people to clean up, and remove all the sources of filth and the breeding places of flies. If they don't comply with your request then serve a written order, as provided for under Regulation 87, and see that your order is complied with.

The public expect their health officer to order them to clean up and they don't have much respect for him, as a health officer, unless he issues such an order. Regulation 87, page 50, Public Health Laws is as follows:

**Regulation 87.—Health Officer Must Investigate and Order any Unsanitary Condition Removed—**All health officers are required to make a thorough inspection whenever and wherever they have reason to suspect that any condition detrimental to the public health exists. In order that a health officer may know the sanitary conditions within his district he shall make a thorough inspection of all parts of such district at least once in each year and shall order the removal of any condition which he may find to be detrimental to the public health. Such order must be made in writing and must specify the time within which such removal must be made.

Whenever any health officer shall receive information that any condition exists within his district which is detrimental to the public health he shall immediately make a thorough investigation and if such condition is found to exist he shall order in writing, its removal within a specified time. If the person or persons responsible for such condi-



tion fail to comply with such order within the time specified, the health officer shall proceed to require the removal in the manner specified by law.

For the information of the new health officers, we will here quote Regulation 32, as amended at the April, 1915, meeting of the State Board of Health.

---

**Regulation 32, as Amended.—Barns Must Be Cleaned and Manure Disposed of.**—No person shall put any manure into any street, alley or other highway within one-half mile of any house used as a residence. All manure from any barn or barn-yard in any town or city in the State shall be removed at least once in each week of each year between the months of April and October, and such other time as the local, county or state health officer may direct, and shall be deposited at some point not less than one-half mile from any house used as a residence, provided, that manure may be placed on any field or garden where it will be plowed or spaded under and not allowed to accumulate during the summer months.

As the manure pile is the principal breeding place of flies, it is up to the local and county health officers to see that this regulation is strictly complied with.

---

To the regular readers of our bulletin, if there are any such, we wish to explain why it is there is so much apparent repetition in the articles we publish from time to time.

Our bulletin is primarily for the use and benefit of Local and County Health Officers. On account of our present vicious system of appointing these officers, they are continually changing. It frequently happens that as soon as a Health Officer becomes thoroughly qualified to perform his duties and is taking an interest in health work, the position is given to another man who has had no experience whatever. It is for the benefit of these new men that we have to, to some extent, shape our material for this bulletin.

## THE HOUSE FLY IN RELATION TO PUBLIC HEALTH IN MONTANA.

---

By R. R. Parker.

---

### Article I.—Some Facts Concerning Its Habits.

---

Probably there is no more striking illustration of the oft repeated saying that "familiarity breeds contempt" than the apathy which is too often apparent when health officials attempt to bring home to the public the desirability of practicing the principles of common decency in their daily life as citizens of a community and as individuals. Many of us are so deeply engrossed in the pursuit of well being and happiness by means of the "almighty dollar" that we give scant heed to conditions under which we live. We do not stop to think our best assets are good health and a healthy community in which to live. No one can work at his maximum capacity if hampered by poor physical condition, nor can any city or town which permits the existence of insanitary conditions hope to compete with others which have a full conception of their community obligations. There are instances of cities in this State whose growth has been at a standstill for no other reason than that insanitary conditions have permitted serious outbreaks of communicable diseases.

Probably none of the newer sciences, which have developed with mushroom-like rapidity during the past half century, are pregnant with greater benefits to mankind than the science of preventative medicine, that is, the prevention of disease. The physician of today not only recognizes it as his duty to alleviate suffering and to minister to the sick, but also from the fullness of his knowledge to aid communities to so live that many of our communicable diseases may be prevented. This work in Montana devolves principally upon the State Board of Health and the county and local health officers. It is work for which they many times receive scant appreciation and the value of which is lost to many of us until we are brought face to face with disease and sickness in our own households.

“God and the doctor we alike adore,  
In time of danger, not before.”

That no small proportion of sickness is preventable is a fact that has little appeal until danger comes. It is this attitude of indifference on the part of those who hold the balance of power in their hands that makes the task of the health officer doubly hard and robs many of his efforts of the success and recognition which they so strongly merit.

The field of preventative medicine, however, is broad. The particular phase with which this series of articles has to deal concerns the spread of disease and disease germs by insects. Just how extensive this field is many of us may not fully appreciate. It is not too broad a statement to say that the world is chiefly inhabited by man and insects. Indeed, the idea has often been expressed that it is sometimes a question whether the earth is owned by insects or by man. When we consider that insects are five-sixths of all living animals and that they are distributed to every corner of the earth we begin to grasp an idea of their potential possibilities as enemies of man. There is much that is spectacular in the study of this relationship between insects and man and no phase of the subject is more so than when it is studied from the standpoint of disease transmission. All of us know that malaria is transmitted by a certain kind of mosquito and that this disease cannot exist without this insect to spread it from man to man. By controlling the breeding grounds of this pest large areas formerly uninhabitable have been redeemed for man's occupation. We all know that the building of the Panama Canal was only possible because of the control of the mosquito which transmits yellow fever. Even more spectacular is the transmission of the “sleeping sickness” in Africa by means of the tsetse flies. This dread disease numbers its victims by the hundreds of thousands, yet but for this particular fly it could not exist. It is at once apparent, then, when diseases of this character are concerned, that if it is possible to control the insect which carries them their occurrence can be prevented. It is here that the fields of the entomologists and of the student of preventative medicine overlap. It is the entomologist, who by his training, is qualified to study the life history and habits of insects. It is this knowledge which is necessary in order to find a weak point



in the life of any insect so that it may be attacked and controlled by common sense means.

Just how does this question of disease transmission by insects affect us in Montana? If we deal in the spectacular there is no more striking relationship than that of the common wood tick to the transmission of the Rocky Mountain spotted fever and the high death rate from this disease in the Bitter Root valley. With its spread into eastern Montana, where it apparently appeared for the first time this year over a territory considerably larger than all that previously infected and with the possibility in view of still further inroads into the State, the problem of finding means to effectively control the wood tick has become of great importance to every person within its borders. This paper, however, is to deal with an interrelationship far less spectacular though of infinitely great importance,—that of the common house fly and man. Insidious in its methods of attack, despised as a seemingly necessary pest and annoyance, yet withal an insect which intimately associates itself with the home life of man, it has been finally recognized as one of man's most important enemies. Its relation to the spread of typhoid fever, summer diarrhoea, consumption and other diseases will be the subject of the next article. For the present we will confine ourselves to an inquiry into its life history and habits.

By the life history of the fly is meant how it passes its existence at various times of the year. During the winter months we occasionally see flies about our houses—flies that are very stupid, but they are not present in any great abundance until spring. At this time when the weather begins to get warm the female flies commence to lay their eggs in all sorts of decomposing and fermenting waste, garbage and excreta in privies, but by far the greatest number are laid in fresh horse manure. Here the eggs hatch in from eight to twenty-four hours and the young flies are present as maggots which crawl actively just beneath the surface of the manure. They avoid the light and hence we never see them, unless the manure is turned over when great numbers may be observed wriggling actively to crawl in the manure where it is dark. Not only do they avoid the light at the surface of the pile, however, but also the more intensely heated inner portions of the pile. They also avoid the dried portions of the ma-



nure, though too much moisture is detrimental and retards their growth. As maggots, then, the young house flies live for several days. Then for some reason not well understood they migrate downward and toward the outer edge of the pile and may leave the manure altogether and crawl into the earth often to a depth of several inches or more. Here they change into a small oval object which consists of a dark colored, hard shell within which is the maggot. This is called the pupa. This condition lasts for several more days during which the maggot-like appearance is entirely lost and the winged fly as we most commonly see it is gradually formed. When this transformation is complete the dark colored shell is broken and the winged fly emerges. In the summer this series of changes from egg to adult takes from ten to fifteen days, but this time is longer in the spring and fall when the weather is colder. When cold weather comes some of the flies find warm places in houses and barns where they either pass the winter or gradually die off. Of course there must be some means of passing the winter so that there will be flies to deposit eggs in the spring. Perhaps this is most commonly accomplished by the maggots that live over in accumulations of refuse and waste and by the pupa which is either in similar places or sheltered under the ground.

Of course we have the greatest number of flies during the summer months when the time from the egg to the winged fly is shortest. In Montana flies may become abundant toward the last of June and their number gradually increases till we reach the height of the fly season during August. In September their number begins gradually to decline. It is easy for us to understand how the house flies become so abundant during the summer because we know that each female fly deposits several batches of eggs, one hundred to one hundred and fifty each time. It has been estimated that the descendants from a single female from April 15 to September 10 may be 5,589,720,000,000. Of course, flies die naturally and are killed by many agencies so that these figures are chiefly valuable to show the tremendous potential reproductive power of this insect. Some idea of how the great numbers of flies are produced, however, may be gained from observations made in California which showed that a pile of manure weighing one thousand pounds contained 450,000 maggots or 450 to each pound. Since we

know that every horse produces from fifteen to twenty pounds of manure a day, it is easy to comprehend why flies are so numerous when horse manure is not properly cared for.

While horse manure is chiefly responsible for the great numbers of flies they also will breed in many other substances,—other sorts of animal excrement of which pig manure is the most important, accumulations of garbage, piles of rotting grass from our lawns, in our privy vaults; and in fact in any refuse material which is in a state of fermentation. Fermenting material is necessary because the heat that is generated is essential for the development of the maggots. Substances which have become dry and in which active fermentation has ceased are not suitable places for breeding, so the importance of properly caring for garbage, manure and other refuse when it is fresh can be readily understood.

Among the most important habits of the house fly in relation to man are its places and manner of feeding. It shows the greatest predilection for all manner of filth, human excrement, garbage and waste of all kinds. More than one-fifth of the flies that visit our privy vaults and more than four-fifths of those that frequent garbage are house flies. How important this fact is can be readily appreciated when it is explained that 85 to 98 per cent of the flies found frequenting food in houses and stores are this same fly. Many other common flies in Montana have the same habits but are not nearly so numerous as the true house fly.

When frequenting food the house fly contaminates it in several ways. Its legs and parts of its body are covered with hairs and these become contaminated with the filth which is frequented by the fly. When the fly walks over food this filth, which contains germs of all sorts, is wiped off. Not only does the fly carry germs on the outside of its body, however, but they are contained in the filth which it eats. Fly specks left on our food contain these germs. Another serious fault of the fly is its habit of vomiting up liquid food which it has eaten. The large sploches seen on the window panes are of this nature. The habit is often indulged in when eating sugar or other solid food. The fly feeds entirely by sucking, hence, hard substances such as sugar must be moistened and dissolved. This is accom-

plished by vomiting up undigested food mixed with saliva. Many disease germs are left on our food in this way. Some sorts of fly food, such as tuberculous sputum of which flies are very fond, cause diarrhoea in the fly increasing the frequency with which fly specks are deposited.

If there is any single lesson which a study of the house fly and its habits brings home, it is the value of cleanliness and decency. This means not only cleanliness within the home, but community cleanliness as well. Because we are accustomed to dumping our garbage in the back alley, piling horse manure in the most convenient place and building privies which are a disgrace to any civilized community, is no reason why we should continue these insanitary practices. Without filth the house fly cannot exist, and it is only our own uncleanly habits of permitting such waste to accumulate that makes this insect possible as a pest and disease carrier.

---

The man who is shy of enemies should forgive a few of his friends.

---

This world that we're a-livin' in  
Is mighty hard to beat;  
You get a thorn with every rose,  
But ain't the roses sweet?  
—Stolen.

---

Reputation is what you need to get a job; character is what you need to keep one.

---

### THE DIFFERENCE.

When a woman winds a towel around her head and calls for a bucket of water it means the beginning of a big day, but when a man winds a towel around his head and calls for water it means the end of a big night.

COMMUNICABLE DISEASES REPORTED TO THE STATE  
BOARD OF HEALTH FOR THE MONTH OF  
DECEMBER, 1915.

Smallpox—Blaine, 3; Great Falls, 1; Carbon, 14; Chouteau, 9; Custer, 1; Dawson, 2; Hill, 1; Helena, 1; Meagher, 2; Silver Bow (Excl. of Butte), 4; Butte, 9; Sweet Grass, 2; Yellowstone (Excl. of Billings), 1. Total, 50. Total last month, 57.

Diphtheria—Flathead (Excl. of Kalispell), 2; Bozeman, 1; Missoula City, 2; Richland, 1; Butte, 4; Sheridan, 3. Total, 13. Total last month, 9.

Scarlet Fever—Beaverhead, 1; Great Falls, 1; Fallon, 1; Bozeman, 3; Granite, 1; Jefferson, 1; Helena, 1; Meagher, 4; Missoula City, 1; Livingston, 1; Prairie, 1; Butte, 2; Sheridan, 3; Stillwater, 1; Yellowstone (Excl. of Billings), 2; Billings, 1. Total, 25. Total last month, 35.

Typhoid Fever—Blaine, 6; Flathead (Excl. of Kalispell), 1; Gallatin (Excl. of Bozeman), 1; Hill, 2; Missoula City, 1; Powell, 1; Prairie, 1; Rosebud, 1; Stillwater, 1; Teton, 6; Yellowstone (Excl. of Billings), 2; Total, 23. Total last month, 58.

Measles—Broadwater, 1; Great Falls, 2; Fallon, 1; Flathead (Excl. of Kalispell), 17; Kalispell, 18; Hill, 2; Jefferson, 3; Helena, 4; Madison, 1; Silver Bow (Excl. of Butte), 11; Butte, 3; Toole, 1; Yellowstone (Excl. of Billings), 1. Total, 65. Total last month, 84.

Cerebro Spinal Meningitis—Chouteau, 1; Total, 1; Total last month, 0.

Tuberculosis—Blaine, 1; Cascade (Excl. of Gt. Falls), 1; Great Falls, 2; State Sanatorium, 7; Hill, 1; Meagher, 1; Rosebud, 1; Sanders, 1; Butte, 11; Sheridan, 1. Total, 27. Total last month, 42.

Whooping Cough—Blaine, 1; Helena, 3; Meagher, 1; Total, 5. Total last month, 22.

Anterior Poliomyelitis—No cases reported. Last month, none.

Trachoma—No cases reported. Last month, 0.

Chicken Pox—Great Falls, 1; Sheridan, 2; Teton, 1; Total, 4. Total last month, 9.



**BIRTHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD  
OF HEALTH FOR THE MONTH OF DECEMBER, 1915, AND COM-  
PARATIVE BIRTH AND DEATH RECORD IN THE STATE.**

	Males.	Females.	Totals.	Deaths.	Excess of Births.	Excess of Deaths.
Beaverhead	5	3	8	7	1	...
Big Horn	2	1	3	3	...	...
Blaine	7	6	13	7	6	...
Broadwater	2	8	10	1	9	...
Carbon	20	12	32	12	20	...
Cascade Excl. of	15	14	29	13	16	...
Great Falls	30	27	57	32	25	...
Chouteau	13	9	22	12	10	...
Custer	18	12	30	14	16	...
Dawson	15	25	40	14	26	...
Deer Lodge Excl. of	1	2	3	23	...	20
Anaconda	14	14	28	17	11	...
Fallon	16	13	29	1	28	...
Fergus	25	21	46	16	30	...
Flathead Excl. of	8	13	21	6	15	...
Kalispell	6	5	11	8	3	...
Gallatin Excl. of	8	7	15	13	2	...
Bozeman	4	13	17	18	...	1
Granite	4	1	5	5	...	...
Hill	14	16	30	10	20	...
Jefferson	3	4	7	11	...	4
Lewis and Clark Excl. of	14	7	21	16	5	...
Helena	6	10	16	26	...	10
Lincoln	7	7	14	7	7	...
Madison	3	7	10	10	...	...
Meagher	13	11	24	3	21	...
Mineral	2	1	3	...	3	...
Missoula Excl. of	8	3	11	12	...	1
Missoula City	11	8	19	16	9	...
Musselshell	14	10	24	7	17	...
Park Excl. of	8	6	14	5	9	...
Livingston	13	5	18	6	12	...
Phillips	2	8	10	4	6	...
Powell	5	6	11	3	8	...
Prairie	6	1	7	3	4	...
Ravalli	9	4	13	10	3	...
Richland	11	16	27	4	23	...
Rosebud	8	7	15	6	9	...
Sanders	3	3	6	6	...	...
Sheridan	18	13	31	8	23	...
Silver Bow Excl. of	19	13	32	39	...	7
Butte	36	42	78	89	...	11
Stillwater	8	5	13	6	7	...
Sweet Grass	5	7	12	6	6	...
Teton	14	10	24	16	8	...
Toole	6	3	9	1	8	...
Valley	6	4	10	7	3	...
Wibaux	2	4	6	1	5	...
Yellowstone Excl. of	9	10	19	3	16	...
Billings	20	18	38	23	15	...
Totals	516	475	991	586	465	54

Stillbirths ..... 24

**DEATHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD  
OF HEALTH FOR THE MONTH OF DECEMBER, 1915, ARRANG-  
ED ACCORDING TO COUNTIES AND PRINCIPAL CITIES.**

	Totals	Other Causes	Alcoholism	Suicide	Violence	Acute Intestinal Diseases	Malignant Tumors	Organic Heart Disease	Nephritis	Pneumonia	Whooping Cough	Anterior Poliomylitis	Typhoid Fever	Measles	Scarlet Fever	Tuberculosis	Small Pox	Spotted Fever
Beaverhead	2	1	2	2														
Big Horn	1	1																
Blaine	1	1																
Broadwater	1	1																
Carbon	2	2																
Cascade Excl. of	1	1																
Great Falls	2	2																
Chouteau	2	2																
Custer	2	2																
Dawson																		
Deer Lodge Excl. of	5	5																
Anaconda	1	1																
Fallon																		
Fergus	2	2																
Flathead Excl. of																		
Kalispell	1	1																
Gallatin Excl. of																		
Bozeman																		
Granite																		
Hill	1	1																
Jefferson	1	1																
Lewis and Clark Excl. of	2	2																
Helena	2	2																
Lincoln	2	2																
Madison																		
Meagher																		
Mineral																		
Missoula Excl. of																		
Missoula City	1	1																
Musselshell																		
Park Excl. of																		
Livingston																		
Phillips																		
Powell																		
Prairie																		
Ravalli																		
Richland																		
Rosebud	1	1																
Sanders																		
Sheridan																		
Silver Bow Excl. of	6	6																
Butte	9	9																
Stillwater	1	1																
Sweet Grass	1	1																
Teton	1	1																
Toole	1	1																
Valley																		
Wibaux																		
Yellowstone Excl. of																		
Billings																		
Totals	40	6	7	1	3	115	27	62	22	5	56	14	8	220	586			

Estimated Population	420,000
Monthly Death Rate per 1,000 Population	1.03
Annual Death Rate per 1,000 Population	12.36

COMMUNICABLE DISEASES REPORTED TO THE STATE  
BOARD OF HEALTH FOR THE MONTH OF  
JANUARY, 1916.

---

Smallpox—Blaine, 2; Carbon, 17; Chouteau, 3; Dawson, 8; Hill, 2; Helena, 2; Meagher, 7; Richland, 1; Rosebud, 3; Silver Bow (Excl. of Butte) 1; Butte, 7; Stillwater, 13; Valley, 1; Yellowstone (Excl. of Billings), 5; Total, 72. Total last month, 50.

Diphtheria—Great Falls, 1; Flathead (Excl. of Kalispell) 1; Helena, 1; Missoula City, 4; Silver Bow (Excl. of Butte), 3; Butte, 1; Total, 11. Total last month, 13.

Scarlet Fever—Beaverhead, 1; Blaine, 12; Fergus, 1; Granite, 1; Hill, 10; Jefferson, 2; Helena, 1; Lincoln, 1; Madison, 1; Mineral, 1; Missoula City, 1; Ravalli, 8; Sheridan, 3; Butte, 1; Yellowstone (Excl. of Billings), 1; Billings, 1. Total, 46. Total last month, 25.

Typhoid Fever—Blaine, 12; Great Falls, 1; Kalispell, 1; Livingston, 1; Prairie, 1; Stillwater, 1; Butte, 1; Teton, 7; Yellowstone, 1; Total, 26. Total last month, 23.

Measles—Cascade (Excl. of Gt. Falls), 1; Great Falls, 1; Dawson, 2; Anaconda, 1; Flathead (Excl. of Kalispell), 4; Kalispell, 3; Bozeman, 1; Madison, 16; Meagher, 1; Musselshell, 1; Sheridan, 14; Silver Bow (Excl. of Butte), 10; Butte, 13; Teton, 1; Yellowstone (Excl. of Billings), 3; Billings, 1; Total, 73. Total last month, 65.

Cerebro Spinal Meningitis—Billings, 1; Total, 1. Total last month, 0.

Tuberculosis—Great Falls, 2; Flathead (Excl. of Kalispell), 1; Sanders, 1; Butte, 9; Valley, 1. Total, 14; Last month, 27.

Whooping Cough—Choteau, 2; Helena, 17; Livingston, 1. Total, 20. Total last month, 5.

Anterior Poliomyelitis—No cases reported.

Trachoma—No cases reported.

Chickenpox—Great Falls, 1; Custer, 1; Dawson, 2; Hill, 2; Helena, 2; Teton, 2; Total, 10. Total last month, 4.

**BIRTHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD  
OF HEALTH FOR THE MONTH OF JANUARY, 1916, AND COM-  
PARATIVE BIRTH AND DEATH RECORD IN THE STATE.**

	Males.....	Females.....	Totals.....	Deaths.....	Excess of Births.....	Excess of Deaths.....
Beaverhead .....	4	7	11	7	4	...
Big Horn .....	3	2	5	3	2	...
Blaine .....	5	8	13	3	10	...
Broadwater .....	4	5	9	...	9	...
Carbon .....	17	16	33	11	22	...
Cascade Excl. of .....	13	7	20	11	9	...
Great Falls .....	29	30	59	27	32	...
Chouteau .....	8	8	16	6	10	...
Custer .....	17	8	25	7	18	...
Dawson .....	10	18	28	7	21	...
Deer Lodge Excl. of .....	...	...	...	7	...	7
Anaconda .....	13	11	24	17	7	...
Fallon .....	7	3	10	2	8	...
Fergus .....	25	16	41	12	29	...
Flathead Excl. of .....	12	6	18	13	5	...
Kalispell .....	6	6	12	6	6	...
Gallatin Excl. of .....	11	12	23	6	17	...
Bozeman .....	8	8	16	1	15	...
Granite .....	7	4	11	8	3	...
Hill .....	18	9	27	9	18	...
Jefferson .....	8	1	9	2	7	...
Lewis and Clark Excl. of .....	4	2	6	12	...	6
Helena .....	13	15	28	14	14	...
Lincoln .....	3	5	8	6	2	...
Madison .....	5	2	7	8	...	1
Meagher .....	6	6	12	2	10	...
Mineral .....	...	1	1	5	...	4
Missoula Excl. of .....	7	4	11	5	6	...
Missoula City .....	7	11	18	26	...	8
Musselshell .....	16	9	25	8	17	...
Park Excl. of .....	1	2	3	4	...	1
Livingston .....	8	10	18	6	12	...
Phillips .....	3	1	4	1	3	...
Powell .....	6	3	9	6	3	...
Prairie .....	1	2	3	3	...	...
Ravalli .....	9	5	14	17	...	3
Richland .....	6	6	12	1	11	...
Rosebud .....	4	3	7	5	2	...
Sanders .....	4	4	8	7	1	...
Sheridan .....	15	14	29	9	20	...
Silver Bow Excl. of .....	16	11	27	24	3	...
Butte .....	61	48	109	65	44	...
Stillwater .....	2	7	9	5	4	...
Sweet Grass .....	4	8	12	1	11	...
Teton .....	14	15	29	8	21	...
Too'e .....	1	5	6	1	5	...
Valley .....	5	6	11	6	5	...
Wibaux .....	1	1	2	1	1	...
Yellowstone Excl. of .....	12	13	25	4	19	...
Billings .....	22	15	37	12	25	...
Totals .....	481	419	900	437	491	30

Stillbirths ..... 24



**DEATHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD  
OF HEALTH FOR THE MONTH OF JANUARY, 1916, ARRANGED  
ACCORDING TO COUNTIES AND PRINCIPAL CITIES.**

	Spotted Fever	Small Pox	Tuberculosis	Diphtheria	Scarlet Fever	Measles	Typhoid Fever	Meningitis	Anterior Poliomyelitis	Whooping Cough	Pneumonia	Nephritis	Organic Heart Disease	Malignant Tumors	Acute Intestinal Diseases	Violence	Suicide	Alcoholism	All Other Causes	Totals
Beaverhead											1			5		1				7
Big Horn										1										3
Blaine																				1
Broadwater																				1
Carbon			1																	1
Cascade Excl. of											1	1	1	1	3	1				11
Great Falls			4					2		3	2	3		1	5					25
Choteau										1	1	3			1	1				6
Custer			1					1					1		1	1				4
Dawson											1	1			1	1				4
Deer Lodge Excl. of			5												1	1				7
Anaconda			1								1	1	1	1	2	1				17
Fallon								1												2
Fergus			3								1		1	2		2	1			12
Flathead Excl. of			2							2		2	2		2			1		13
Kalispell											1	1								6
Gallatin Excl. of													1	1		1				6
Bozeman																				1
Granite			1								1					1	1			8
Hill											1	1	1							9
Jefferson												1	1							2
Lewis and Clark Excl. of										2	2	4			1					12
Helena			1							1	6		1							5
Lincoln											1	1	1							6
Madison											1	1	1	1						8
Meagher											1	1	1							2
Mineral											1	1	1	1		1				5
Missoula Excl. of			1								1	1	1			1				8
Missoula City			4								3	1	8		4					26
Musselshell			1								1	1			1					5
Park Excl. of											1				1					2
Livingston			1								2	1	1							6
Phillips																				1
Powell											1	1			2					6
Prairie											1	2								3
Ravalli				1							4	1	4			1				17
Richland												1	1							1
Rosebud												1	2		1	1				5
Sanders											2	1	1							7
Sheridan			1					1			1	2	1			1	1			9
Silver Bow Excl. of			5							1	6	1	2		1	1				24
Butte			5					2			14	3	8	5		3	4			21
Stillwater												1			1					5
Sweet Grass																				1
Teton											1	2			1		1			8
Toole																				1
Valley								1			1	1	1							6
Wibaux											1									1
Yellowstone Excl. of											1				1					2
Billings												2	2			2	1			12
Totals	37	1						8	2	63	29	65	16	5	38	8	8	157	437	

Estimated Population	420,000
Monthly Death Rate per 1,000 Population	1.04
Annual Death Rate per 1,000 Population	12.48

MONTANA STATE BOARD OF HEALTH.

Food and Water Laboratory.                      Office of the Chemist.  
Month of December.

Summary of Samples Analyzed.

	Passed	Not Passed	Total
Spirits of camphor .....	2	---	2
Tincture of Iodine .....	15	17	32
Tincture of Iron .....	18	6	24
Spirits of peppermint .....	6	1	7
Dilute Hydrochloric acid .....	2	---	2
Ammonia water .....	---	1	1
Miscellaneous .....	---	---	6
Water .....	---	---	51
Total .....	43	25	125

Fifty-one samples of water were collected and analyzed in the chemical and bacteriological laboratories. These samples were collected at the following places: Bozeman, Billings, Boulder, Chinook, Cut Bank, Fromberg, Glacier Park, Kalispell, Hardin, Lewistown, Miles City, Rexford, Three Forks, and Whitefish.

One sample of cake was sent in which was too old and generally unfit for examination.

One sample of meat which was passed was suspected as the source of family poisoning.

One sample of lime water was passed.

One sample of tincture of Nux Vomica was insufficient for analysis.

One sample of tincture of Belladonna was insufficient for analysis.

MONTANA STATE BOARD OF HEALTH.

Food and Water Laboratory.

Office of the Chemist.

Month of January, 1916.

Summary of Samples Analyzed.

	Passed	Not Passed	Total
Tincture of Iodine .....	15	15	30
Tincture of Iron .....	16	11	27
Lime Water .....	22	3	25
Dilute Hydrochloric Acid .....	2	1	3
Fowler's Solution .....	---	2	2
Aromatic Sp. Ammonia .....	1	---	1
Witch Hazel Extract .....	1	---	1
Butter (Dairy Commission) .....	6	1	7
Milk .....	---	1	1
Pork .....	1	1	2
Beef .....	---	---	1
Powder .....	---	---	1
Water .....	---	---	36
Total .....	64	35	137

Thirty-six samples of water were sent to this laboratory for chemical and bacteriological analyses. These samples were analyzed in the chemical and bacteriological laboratories. These water samples were collected at the following places: Big Sandy, Chinook, Culbertson, Fromberg, Glacier Park, Glasgow, Glendive, Hardin, Havre, Kalispell, Miles City, Mission, Scoby, Snowdon, and Whitefish.

One hundred and eleven (111) miscellaneous food and drug samples were analyzed in accordance with the tabulation above.

HELENA PUBLIC LIBRARY

HELENA, MONT.

